

## Interview Summary

**Application No.**

10/077,966

**Applicant(s)**

NAKAMURA ET AL.

**Examiner**

Yves Dalencourt

**Art Unit**

2157

All participants (applicant, applicant's representative, PTO personnel):

(1) Yves Dalencourt.

(3) \_\_\_\_\_.

(2) Donna K. Mason.

(4) \_\_\_\_\_.

Date of Interview: 03 July 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: \_\_\_\_\_.

Identification of prior art discussed: \_\_\_\_\_.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See attached amendment.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an  
Attachment to a signed Office action.

\_\_\_\_\_  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Date: July 3, 2007

FACSIMILE COVER LETTER

Facsimile Number: (571) 273-3998

To: Examiner Yves Dalencourt  
U.S. Patent & Trademark Office  
AU: 2157

From: Donna K. Mason, Esq.  
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

Re: USSN 10/077,966  
Attorney Docket No.: 520.41229X00

Dear Examiner Dalencourt:

Please find attached a copy of the proposed claim amendments, as agreed to by our client, in the above-identified application.

  
Donna K. Mason

July 3, 2007  
Date

Total Number of Pages (including cover sheet): 13

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If the facsimile you receive is incomplete or illegible,  
please CALL (703) 684-1120. Thank you.

**Listing of Claims:**

1. (currently amended) A control method of a data storage system in which multiple external storage systems that store information are connected to a first network and each of ~~them~~ said multiple external storage systems is arranged separately, comprising:

generating an interrupt by an external storage system to a management server;

issuing an exclusive control command by said management server to said external storage system, wherein said exclusive control command temporarily limits access to said external storage system such that said management server is the only control server that enables configuration setting of the data storage system;

receiving by said management server, configuration information from said external storage system in response to said command; and

storing in a database at said management server said configuration information that said management server received,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said configuration information in the database managed by said management server using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

2. (currently amended) A control method of a data storage system in which multiple external storage systems that store information are connected to a first network and each of them said multiple external storage systems is arranged separately, comprising:

issuing an exclusive control command by a management server to multiple external storage systems, wherein said exclusive control command temporarily limits access to said external storage system such that said management server is the only control server that enables configuration setting of the data storage system;

receiving by said management server, configuration information from said external storage system in response to said command; and

storing in a database at said management server, configuration information that said management server received,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said configuration information in the database managed by said management server using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

3.-4. (canceled)

5. (currently amended) A control method of a data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively and each of ~~them~~ said multiple external storage systems is arranged separately, comprising:

logging on to a management server to request access permission;

issuing an exclusive control command by said management server to said external storage systems, wherein said exclusive control command temporarily limits access to said external storage systems such that said management server is the only control server that enables configuration setting of the data storage system;

receiving by said management server configuration information from said external storage systems in response to said command; and

storing in a database at said management server said configuration information that said management server received,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said configuration information in the database managed by said management server using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

6. (currently amended) The control method of the data storage system according to claim 5, wherein said management server acquires configuration information of said all external storage systems and stores ~~it~~said configuration information in the database managed by said management server using said exclusive control command.

7. (original) The control method of the data storage system according to claim 5, further comprising:

activating application programs of said multiple computers based on said exclusive control command issued by said management server; and

receiving by said management server, host logical configuration information from said multiple computers.

8. (original) The control method of the data storage system according to claim 7, wherein said configuration information stored in said database and said host logical configuration information are associated and stored in a database.

9. (currently amended) A control method of a data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively and each of ~~them~~said multiple external storage systems is arranged separately, comprising:

logging on to a management server to request access permission;

sending configuration information by said management server;  
instructing said management server to change said configuration information;  
issuing an exclusive control command by said management server to multiple external storage systems, wherein said exclusive control command temporarily limits access to said external storage system such that said management server is the only control server that enables configuration setting of the data storage system;  
receiving by said management server the completion of a setting of said configuration information from said external storage systems in response to the command; and  
storing in a database at said management server, a change of said configuration information.

10. (previously presented) The control method of the data storage system according to claim 9, wherein said configuration information that said management server handles includes:

setting concerning an internal access path of an external storage system, a logical unit, capacity of the logical unit, an access authority to the logical unit, or data move;

setting concerning data copy between said external storage systems;

setting or acquisition of performance control modes or performance data of said external storage systems; or



setting of a data storage system maintenance method, fault occurrence, fault notification, or user operation.

11. (original) The control method of the data storage system according to claim 9, wherein an external storage system that is an object of a change of its configuration information is recognized and said exclusive control command is issued to only said external storage system.

12. (currently amended) A control method of a data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively and each of ~~them~~ said multiple external storage systems is arranged separately, comprising:

issuing an exclusive control command by a management server to multiple external storage systems, wherein said exclusive control command temporarily limits access to said multiple external storage systems such that said management server is the only control server that enables configuration setting of the data storage system;

receiving by said management server configuration information from said external storage systems in response to said command;

activating application programs of said multiple computers based on said exclusive control command issued by said management server;

receiving by said management server, host logical configuration information from said multiple computers; and

storing in a database at said management server said received configuration information and host logical configuration information,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said configuration information in the database managed by said management server using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

13. (original) The control method of the data storage system according to claim 12, further comprising:

generating an interrupt by said external storage systems to said management server.

14. (currently amended) The control method of the data storage system according to claim 12, wherein said management server acquires configuration information of the whole data storage system in point of time series and ~~associates them~~ said configuration information of the whole data storage system in point in time series, then stores ~~them~~ said configuration information of the whole data storage system in point in time series in a database of the management server using the exclusive control command.

15. (currently amended) A control method of a data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively, each of ~~them~~ said multiple external storage systems is arranged separately, and the data storage system has a management server connected via a first network, comprising:

inputting a file type and time that said multiple computers use, to said management server;

retrieving by said management server a configuration information database and displaying a physical storage position of a logical unit that corresponds to a file;

retrieving another logical unit related to said physical storage position and displaying said another logical unit;

retrieving data in which a modification history of said data storage system is accumulated, and displaying modified contents of said data storage system related to said storage position before said time;

retrieving data in which a performance history of a logical unit is accumulated, and displaying a performance of a logical volume after said time; and

displaying or posting said modified contents of said system when the performance of said logical volume is degraded,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said

configuration information in the database managed by said management server  
using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and  
periodic inquiry into multiple external storage systems as moments.

16. (currently amended) A control method of a data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively, each of ~~them~~ said multiple computers and said multiple external storage systems is arranged separately, and the data storage system has a management server connected via a first network, comprising:

inquiring by the management server, to a computer of the size of a file that an application software of said computer uses, and receiving a response in point of time series; and

retrieving by said management server, association between a logical disk unit and said file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of said logical disk unit and the size of said file in point of time series,

wherein a time series acquisition is made with a simultaneous and  
periodic inquiry into multiple external storage systems as moments.

17. (original) The control method of the data storage system according to claim 16, wherein said relationship predicts, displays or posts the time when said

capacity of said logical disk unit and said file size become equal using the contents of said configuration information database.

18. (currently amended) A data storage system in which multiple external storage systems that store information are connected to a network and each of ~~them~~ said multiple external storage systems is arranged separately, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, show performance and data or post a fault, comprising:

a management server part, which is connected to said multiple external storage systems; and

a configuration information database that accumulates a time for each event and the corresponding event information of said multiple external storage systems via said external connection interface,

wherein said management server part issues an exclusive control command to said multiple external storage systems when the time for each event and the corresponding event information in said configuration information database is accumulated,

wherein said management server acquires configuration information of said external storage systems in point of time series and stores said configuration information in the database managed by said management server using said exclusive control command, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

19. (canceled).

20. (currently amended) A data storage system in which multiple computers that use information and multiple external storage systems that store information are connected to a network respectively and each of ~~them~~ said multiple external storage systems is arranged separately, each computer installs an application for acquiring its own host logical configuration information, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, to show performance and data, or to post a fault, comprising:

a management server part; and

a configuration information database,

wherein the management server part is connected to said external storage systems and accumulates a time for each event and the corresponding event information of said multiple external storage systems via said external connection interface into said configuration information database, and

wherein the management server part is connected to said computers and accumulates host logical configuration information of said multiple computers via said network, in point of time series,

wherein said management server part comprises a function that posts the time when the size of a file that an application of said computer uses reaches the capacity of a logical disk unit of said external storage system, and

wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments.

21. (original) The data storage system according to claim 20, wherein said management server part makes said event information of said multiple external storage systems and said host logical configuration information correspond to each other when they are accumulated in said configuration information database in point of time series.

22. (previously presented) The data storage system according to claim 21, wherein said management server part comprises a function of retrieving said configuration information database by specifying a file and time information said computers handle.

23. (previously presented) The data storage system according to claim 21, wherein said management server part comprises a function of displaying a modification history of a system configuration or a history of a system performance.

24. (canceled).